

REMARKS

Claims 9, 10, 17, 18, 19, 21- 23, and 26-29 are presented for consideration, with Claims 9, 10 and 26 being independent.

Independent Claim 9 has been amended to further distinguish Applicant's invention from the cited art. In addition, Claims 26-29 have been added to provide an additional scope of protection. Claims 11-16, 20, 24 and 25 have been cancelled.

The following remarks are responsive to the Office Action mailed July 16, 2003.

Claims 9-16 and 21 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Masahiro (JP '496). In addition, Claims 17-20 and 22-25 stand rejected as allegedly being obvious over Masahiro in view of Sato '919. These rejections are respectfully traversed.

Claim 9 relates to an image forming apparatus comprising an envelope including first and second substrates and a frame disposed between the first and second substrates and forming a clearance therebetween, and image forming means disposed between the first and second substrates within the envelope. The image forming means includes an electron emitting device disposed on the first substrate and an image forming member disposed on the second substrate, with the image forming member forming an image responsive to irradiation with an electron emitted from the electron emitting device. As claimed, a heat insulating member suppresses a thermal leakage, with the insulating member disposed on an outer surface of the envelope, including surfaces of the frame and the first substrate and a surface of the second substrate except for a region on which the image forming means is arranged. As amended, Claim 9 sets forth that a quantity of heat generated by the second substrate during operation of the image forming apparatus is greater than that of the first substrate.

Support for the changes to Claim 9 can be found, for example, in Figures 4-6 and the accompanying specification beginning on page 10, line 8.

Claim 10 relates to an image forming apparatus that includes an envelope and image forming means as in Claim 9. In addition, a heat insulating member suppresses a thermal leakage, and is disposed on an outer surface of the envelope, including surfaces of the frame and the first and second substrates except for a surface region of the image forming means on both of the first and second substrates.

In accordance with Applicant's claimed invention, the heat insulating member is provided to suppress thermal leakage. This allows for more uniform temperature distribution and better performance of the image forming apparatus.

As discussed in the previous Amendment of May 27, 2003, the primary citation to Masahiro relates to an image forming apparatus that includes a face plate 2, a rear plate 3 and a supporting frame 4, with an image forming part 20 formed on the face plate and an electron emitting part 6 formed on the rear plate.

The Office Action acknowledges that Masahiro does not provide a heat insulating member suppressing thermal leakage, but asserts that it would have been obvious to specify substrate 6 of Masahiro as a heat insulating member in order to produce a uniform temperature and intrinsically suppress thermal leakage. It is respectfully submitted, however, that this assertion is based on hindsight, and actually goes against the teachings of Masahiro.

In Masahiro, the electric circuit board 6 is disposed behind the rear plate and includes heat generating parts 7 formed at an outer circumference of the board and electric parts 8 formed on the interior part of the board. As understood, the heat generating electric parts are placed on the outer portions of the circuit board in order to suppress thermal distortion.

Masahiro thus uses a totally different approach for dealing with the heat generated by its image forming apparatus. In addition, the electric circuit board, or substrate, 6 in Masahiro is not even disposed on a outer surface of the envelope, including surfaces of the frame and the first substrate and second substrates as set forth in Applicant's Claim 9 or Claim 10. Still further, it is submitted that even if the electric circuit board were made of a heat insulating member as suggested in the Office Action, it is not likely to suppress thermal leakage because it is only disposed behind the rear plate 3. Claim 9 is further distinguished from Masahiro because it recites that the quantity of heat generated by the second substrate during an operation of the image forming apparatus is greater than that of the first substrate.

Accordingly, it is respectfully submitted that Masahiro fails to teach or suggest Applicant's invention as set forth in independent Claims 9 and 10. Therefore, reconsideration and withdrawal of the rejection of Claims 9-16 and 21 under 35 U.S.C. §103 is respectfully requested.

The secondary citation to Sato relates to an image display apparatus and was cited for its teaching of covering a face plate with a transparent thermally conductive member. Sato fails, however, to compensate for the deficiencies in Masahiro as discussed above with respect to independent Claims 9 and 10.

Therefore, the proposed combination of Masahiro and Sato, even if proper, still fails to teach or suggest Applicant's claimed invention. Reconsideration and withdrawal of Claims 17-20 and 22-25 is thus also respectfully requested.

Accordingly, it is submitted that Applicant's invention as set forth in independent Claims 9 and 10 is patentable over the cited art. In addition, dependent Claims 17-

19 and 21-23 set forth additional features of Applicant's invention. Independent consideration of the dependent claims is respectfully requested.

Newly submitted independent Claim 26 is also submitted to be patentable over the cited art.

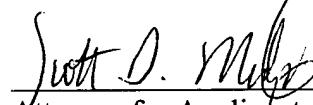
Claim 26 relates to an image forming apparatus that includes an envelope and image forming means as set forth in Claims 9 and 10. In addition, Claim 26 sets forth a heat insulating member that suppresses a thermal leakage and is disposed on an outer surface of the envelope, including surfaces of the frame and the second substrate and a surface of the first substrate except for a surface region on which the electron emitting devices are arranged. As claimed, a quantity of heat generated by the first substrate during an operation of the image forming apparatus is greater than that of the second substrate.

Support for the image forming apparatus set forth in Claim 26 can be found, for example, in Figures 7-9 and in the specification beginning on page 11, line 10.

Due consideration and prompt passage to issue are respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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